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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,829	11/09/2001	Mark S. Knighton	4956P007	3050

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

NGUYEN, PHU K

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 08/11/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

09/990,829

Applicant(s)

KNIGHTON ET AL.

Examiner

Phu K. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 36-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-10, 14-17 and 38-44 is/are rejected.
- 7) ☒ Claim(s) 5-7, 11-13, 18, 19, 36, 37, 45 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

PHU K. NGUYEN
DEPUTY EXAMINER
GROUP 800

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 8-10, 14-17, and 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over HAZAMA et al. (5,971,589) in view of SOLBERG et al. (6,134,338).

As per claim 1, Hazama teaches the claimed "method" comprising: "analyzing a data file representing a three dimensional object to automatically identify a plurality of views of interest based on at least one observable characteristic of the three dimensional object" (Hazama, column 49, lines 17-37; column 53, lines 33-62). It is noted that Hazama does not explicitly teach the step of "defining an access mechanism to permit the plurality of views to be

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accessed". Soldberg teaches that such "access mechanism" is well known (Soldberg, column 11, lines 20-35). It would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Soldberg, to configure Hazama's system as claimed by providing "an access mechanism" to permit a plurality of views to be accessed. The purpose of providing the access mechanism is to enhance the capability of user interactive in which the 3D object can be viewed with different angles, sizes, ...

Claim 43 claims "a computer readable medium having stored instructions" to perform method of claim 1; therefore, it is rejected under the same reason (Hazama, column 19, lines 19-21).

Claim 2 adds into claim 1 "automatically creating an adjusted scale representation of each view of interest; and associating the adjusted scale representation with an actuatable control" which Hazama teaches in column 79, lines 18-33.

Claim 3 adds into claim 1 "rendering a representation of the three dimensional object from the data file; and automatically translating the object to a corresponding view of interest responsive to an actuation of a control associated with a corresponding representation" which Hazama teaches in column 54, lines 35-52.

Claim 4 adds into claim 1 "the plurality of views includes all six orthogonal views" which Hazama teaches in column 23, lines 61-67; column 62, lines 19-33.

Claim 8 adds into claim 1 "automatically creating a sequence for presenting the plurality of views in a prescribed manner" which Hazama teaches in column 24, lines 28-45.

Claim 9 adds into claim 1 "automatically presenting the sequence responsive to an event" which Hazama teaches in column 24, lines 46-58.

Claim 10 adds into claim 1 "the characteristic is one of: shape of the object, texture map of the object, indicia of the object, local detail of the object, and color of the object" which Hazama teaches in column 20, lines 34-42.

As per claim 14, Hazama teaches the claimed "method" comprising: "rendering a three dimensional representation of an object from a data file" (Hazama, column 21, lines 46-58); "searching the data file for a region substantially conforming to the feature of interest" (Hazama, column 49, lines 17-37; column 53, lines 33-62); and "displaying an orientation and magnification that permits viewing of the feature" (Hazama, column 62, lines 4-18). It is noted that Hazama does not explicitly teach the step of "accepting a definition of a feature of interest". Soldberg teaches that such "definition of a feature of interest;" is well known (Soldberg, column 23, lines 64-67). It would have been obvious to a

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person of ordinary skill in the art at the time the invention was made, in view of the teaching of Soldberg, to configure Hazama's system as claimed by providing "a definition of a feature of interest;" to permit a defined view to be accessed. The purpose of providing the definition of a feature of interest; is to enhance the capability of user interactive in which the 3D object can be viewed with different angles, sizes, ...

Claim 44 claims "a computer readable medium having stored instructions" to perform method of claim 14; therefore, it is rejected under the same reason (Hazama, column 19, lines 19-21).

Claim 15 adds into claim 14 "the definition is given by one of: at least one stock criterion; at least one user-specified criterion; and a combination of user specified and stock criteria" which Hazama teaches in column 20, lines 34-63.

Claim 16 adds into claim 14 "the definition includes at least one of: geometrical shape of the object, surface texture of the object, indicia of the object, and local detail of the object" which Hazama teaches in column 20, lines 34-42.

Claim 17 adds into claim 14 "highlighting the feature of interest in the orientation and magnification displayed" which the cited references do not teach. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to "highlight and magnify" the feature of interest

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because it emphasizes the visibility of the interest feature and enhances the user interactive.

Claim 38 adds into claim 1 "displaying a representation of a three dimensional object in a viewing window" (Hazama, figures 19, 37-38). It is noted that the cited references do not explicitly teach "automatically providing a scale indicator that relates to an actual dimension of the object". However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide "a scale indicator" to edit the image because the change of scale indicates and emphasizes the interest feature on the display and to enhances the visual interactive of the system.

Claim 39 adds into claim 38 "wherein the scale indicator is one of dimension lines, coordinates, a grid, and a reference object" which the cited references do not explicitly teach. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide "a scale indicator is one of dimension lines, coordinates, a grid, and a reference object" to access the image because the visual representation of the scale indicator indicates the change of scale which emphasizes the interest feature on the display and to enhances the visual interactive of the system.

Claim 40 adds into claim 1 "displaying a representation of a three dimensional object in a viewing window" (Hazama, figure 19). It is noted that the cited references do not explicitly teach "automatically providing a color reference

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to allow for calibration of color of a display device". However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide "a color preference" to edit the image because the change of color indicates and emphasizes the interest feature on the display and to enhances the visual interactive of the system.

Claim 41 adds into claim 1 "displaying a representation of a three dimensional object in a viewing window" (Hazama, figure 19). It is noted that the cited references do not explicitly teach, "automatically selecting a display background based on at least one characteristic of the object". However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide "a selected background" for the image because the change of background indicates and emphasizes the interest feature on the display and to enhances the visual interactive of the system.

Claim 42 adds into claim 1 "analyzing a data file representing a three dimensional object to automatically identify at least one observable characteristic of the three dimensional object; rendering a representation of a three dimensional object from the data file" (Hazama, column 49, lines 17-37; column 53, lines 33-62; figure 19). It is noted that the cited references do not explicitly teach, "automatically adjusting a virtual light source to light the representation to improve visibility of a characteristic of interest". However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust "the virtual light source" for the image because the change of light on the object indicates and emphasizes the interest feature on the display and to

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enhances the visual interactive of the system.

Claims 5-7, 11-13, 18-19, 36-37, 45-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 5 and its dependent claim 6, the allowable feature is **“automatically eliminating views with an information content below a threshold”**.

In claim 7, the allowable feature is **“permitting a user to create an additional access mechanism and associate a user specified view with the additional access mechanism”**.

In claim 11 and its dependent claim 13, the allowable feature is **“analyzing the data comprises: detecting symmetry of the object; and automatically determining a primary axis of orientation for presentation of the object.”**

In claim 12, the allowable feature is **“automatically identifying homogeneity exceptions in the object.”**

In claim 18, and similar claim 45, and its dependent claim 19, the

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allowable feature is **"tracking user behavior when viewing a representation of a three dimensional object; inferring from the behavior a view of interest; and defining an access mechanism to subsequently permit the view to be automatically accessed."**

In claim 36, and similar claim 46, and its dependent claim 37, the allowable feature is **"determining if movement of a control device is within a tolerance range; and automatically constraining rotation of the representation to a single axis if the movement is within the tolerance range"**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu K. Nguyen whose telephone number is (703)305 -9796. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman can be reached on (703)305-9798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu K. Nguyen
August 8, 2004